

REMARKS

The above amendments to the above-captioned application along with the following remarks are being submitted as a full and complete response to the Office Action dated December 30, 2005 (U.S. Patent Office Paper No. 1224). In view of the above amendments and the following remarks, the Examiner is respectfully requested to give due reconsideration to this application, to indicate the allowability of the claims, and to pass this case to issue.

Status of the Claims

As outlined above, claims 1 – 18 and 23 – 32 stand for consideration, wherein the claims are being amended to correct formal errors and to more particularly point out and distinctly claim the subject invention. Support for the amendments may be found throughout the specification. Claims 19 - 22 stand withdrawn from consideration in this application. Applicant hereby submits that no new matter is being introduced into the application through the submission of this response.

Prior Art Rejections

Claims 1-14, 16, 23-29 and 31 were rejected under 35 USC §102(b) as being anticipated by, or in the alternative under 35 USC §103(a) as being unpatentable over US Patent No. 5,443,900 to Nagano et al.

Claims 1-6, 11, 12, 14-18, 27, 29 and 30-32 were rejected under 35 USC §102(b) as being anticipated by, or in the alternative under 35 USC §103(a) as being unpatentable over US Patent No. 4,557, 970 Holtrop et al.

Claims 1-18 and 23-32 were further rejected under 35 USC §102(b) as being anticipated by, or alternatively under 35 USC §103 as being unpatentable over US Patent No. 4,734,323 to Sato et al.

Even more, claims 1-6, 11, 12, 14-18, 27, 29 and 30-32 were rejected under 35 USC §102(b) as being anticipated by, or in the alternative under 35 USC §103(a) as being unpatentable over European Patent Application No. 1020846 (hereinafter, "EP '846") or its US counterpart, US Patent No. 6,720,069 to Murakami et al.

Lastly, claims 1, 2, 5-9, 11, 12, 15-18, 23, 24, 27 and 30-32 were rejected under 35 USC §102(e) as being anticipated by, or in the alternative under 35 USC §103(a) as being unpatentable over US Patent No. 6,372,334 to Wycech.

Applicants have reviewed the above-outlined rejections, and hereby respectfully traverse. In particular, the present invention as recited in claim 1 is directed to a resin laminate sound insulation board which is a laminated plate, comprising: a foamable resin foamed at a foaming temperature by heating; a shape-formable hard metal plate; and a non-foamable material laminated between the foamable resin and the hard plate, wherein the foamable resin and the non-foamable material are adhered to the hard plate prior to heating and prior to the hard plate being formed to a desired shape, and the foamable resin is heated to a foamed state having a thickness that enhances a rigidity of at least the shaped hard plate.

According to claim 2, the present invention is directed to a resin laminate sound insulation board which is a laminated plate, comprising: at least a first foamable resin foamed at a first foaming temperature by heating, a second foamable resin foamed at a second foaming temperature by heating, and a shape-formable hard metal plate, wherein the first foamable resin is adhered to the hard plate and the second foamable resin is adhered to the first foamable resin prior to the hard plate being formed to a desired shape, wherein at least one of the first and second foamable resins is heated to a foamed state having a thickness that enhances a rigidity of at least the shaped hard plate.

Among the main features of the present invention, the lamination of the foamable resin to a shape-formable hard plate combines the advantages of not only being sound absorbing but also being rigid and able to damp vibration. In addition, the structure of the present invention is intended to be formed into any desired shape after the hard plate is already laminated with at least the foamable resin. After the hard plate is shaped as desired, at least one foamable resin is foamed to a thickness that enhances the rigidity of the structure (See p. 7, line 15 to p. 8, lines 17; page 9, line 23 to page 12, line 14).

Nagano '900 is merely directed to a structure having only two layers A and B, where layer A is an electromagnetic wave absorbing material and layer B is a metal layer acting as a half-mirror.

Holtrop '970 is merely directed to, in a first embodiment, a laminate structure 10 that has a first layer of thermoplastic material 12 and third layer of thermoplastic material 14, wherein the first layer 12 and third layer 14 are fabricated from the same foamed thermoplastic material. The first layer 12 and third layer 14 of thermoplastic material each have an inner surface, 16 and 17 respectively, and an outer surface, 18 and 19 respectively. The inner surface 16 of first layer 12 and the inner surface 17 of third layer 14 are in contact with the surfaces of second layer 13 which is located intermediate the first and third layers 12

and 14 and such surfaces may be bonded together. A sheet of paper, fabric or thermoplastic film 21 is adhesively bonded to the outer surface 18 of first layer 12 and a second such sheet 22 is adhesively bonded to the outer surface 19 of third layer 14. (See col. 2, line 40 to col. 4, line 10).

In a second embodiment, Holtrop '970 shows a laminate structure 30 that has a first layer of thermoplastic material 32, a third layer of thermoplastic material 34, and a second layer of material 33 located intermediate the first layer 32 and the third layer 34. First layer 32 and third layer 34 have inner surfaces 36 and 37 respectively and outer surfaces 38 and 39 respectively. A sheet of paper or fabric 41 is adhesively bonded to the outer surface 38 of first layer 32 and another such sheet 42 is adhesively bonded to the outer surface 39 of third layer 34. (See col. 4, line 55 to col. 5, line 11).

EP '846 and its US equivalent are directed only to a sound absorbing structure having one or more foam members each having a plurality of holes defined therein. Several foam members may be stacked together to form different types of holes.

Sato '323 only discloses a vibration damping soundproof sheet that is composed of a vibration damping layer-forming material 7 laminated to a soundproof layer-forming material 8 that are then applied to their intended use, namely an already-shaped panel surface 1.

Finally, Wycech '334 only discloses the combination of a compliant foam layer 5, a rigid foam layer 6 and a foil or fiberglass backing or carrier 7 on the rigid foal layer 6, that together are applied to an already-formed panel or metal substrate 1.

All of the above-cited references fail to show or suggest, among other features at least one foamable resin adhered to a hard plate prior to foaming, as specifically recited in both claims 1 and 2, wherein the foamable resin is foamed to a thickness that enhances the rigidity of at least the metal hard plate. As such, the structures in any of the cited references would not be applicable to the applications or uses which require the features and advantages provided by the present invention. One of skill in the art, given the problems addressed by the present invention, would not resort to using the structures of the prior art to solve those problems. Therefore, these references can neither anticipate nor render obvious each and every feature of the present invention as claimed.

Conclusion

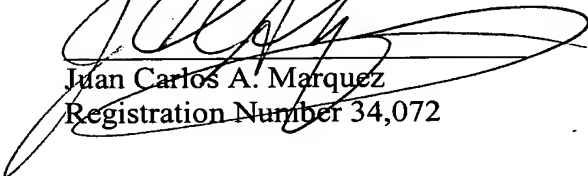
In view of all the above, Applicant respectfully submits that certain clear and distinct differences as discussed exist between the present invention as now claimed and the prior art

references upon which the rejections in the Office Action rely. These differences are more than sufficient that the present invention as now claimed would not have been anticipated nor rendered obvious given the prior art. Rather, the present invention as a whole is distinguishable, and thereby allowable over the prior art.

Favorable reconsideration of this application as amended is respectfully solicited. Should there be any outstanding issues requiring discussion that would further the prosecution and allowance of the above-captioned application, the Examiner is invited to contact the Applicant's undersigned representative at the address and phone number indicated below.

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